TWO NEW SPECIES OF THE GENUS CHEYLETIELLA
(ACARINA: CHEYLETIDAE)

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In April 1963, Dr. J. H. Whitlock, Department of Parasitology, Cornell University, sent two specimens of the mite genus *Cheyletiella* Canestrini for identification. These mites proved to be undescribed. They were collected by Isidor Yasgur, D.V.M., of Mamaroneck, New York, who stated: "I am sending a slide containing mites and eggs removed from the tail of some Schnauzer pups. Many of the mite eggs can be found when the fecal samples are checked and can be quite disconcerting until the source of the egg is realized. I do not know exactly how pathogenic these mites may be, but they do produce a superficial scurf at the base of the tail, and in the three separate instances in which I have found them, they seem to have some effects on the general welfare of the pups."

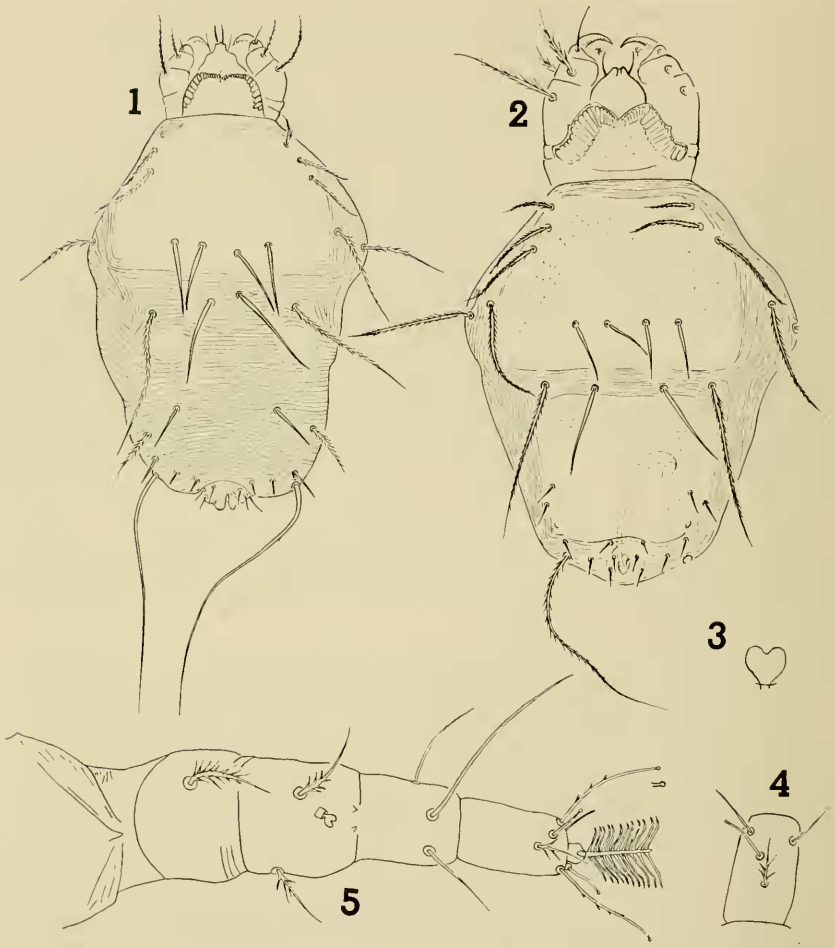
While this paper was being written, Dr. R. K. Strickland, Animal Disease Eradication Division of the U.S. Department of Agriculture brought in the same species which he had collected from a mangy dog at Cornell University in 1962.

During the study of the above specimens, I located another undescribed species of *Cheyletiella* in the U.S. National Museum collection.

Very little is known about the biology of the mites belonging to *Cheyletiella* and the effects they have on their mammalian hosts. Banks (1915) reported that *Cheyletiella parasitivorax* (Mégnin) is predaceous on other mites which are found on rabbit fur. An European worker, Pillers (1925), reported *C. parasitivorax* to be the causative agent for skin lesions and mange in man. Cooper (1946) stated there is no evidence to date which can be held to demonstrate that *C. parasitivorax* attacks its mammalian host, or that it can cause mange in man. However, Olsen and Roth (1947) reported that *C. parasitivorax* has caused eczema in man. Kutzer (1963) reports of a case of mange in a dog caused by *Cheyletiella parasitivorax*. However, this mange could be caused by the species here described.

Volgin (1960) presented a comprehensive report on this genus. Until now, all known species of this genus were described from rabbit hosts.

In the genus *Cheyletiella*, the sense organ of genu I appears to be of specific value and is illustrated here for each of the three species represented in the U.S. National Museum collection. These are *Cheyletiella johnstoni* and *C. yasguri*, the two new species, and *C. parasitivorax* (Mégnin). The palpus is another character which will separate *C. johnstoni*, new species, from *C. takahasii* Sasa and Kano.



Figs. 1–5. *Cheyletiella yasguri*, new species. Fig. 1, dorsum, female; fig. 2, dorsum, male; fig. 3, sensory organ of genu I; fig. 4, venter of tarsus I; fig. 5, leg I, female.

The palpus of *C. johnstoni* differs in each sex, whereas the palpus of *C. takahasii* has been reported to be the same in both sexes.

Cheyletiella yasguri, new species
(Figs. 1–5)

Although the legs of the female are similar to those of *Cheyletiella parasitivorax* (Mégnin), the sensory organ on genu I is different in shape. Also, the setae on the propodosoma and hysterosoma are wider and longer than in *C. parasitivorax*.

Female.—Palpi short and strong; palpal femur with a long, serrate, dorsal seta; genu with a long serrate seta, about three-fourths as long as femoral seta; tibia

with a simple seta, about three-fourths as long as genual seta; palpal claw curved downward, with weak teeth. Rostrum short and broad; peritreme with lateral branches composed of large segments, the anterior transverse segments gradually becoming smaller. Propodosomal shield with three pairs of short, serrated, anterior lateral setae, and a posterior row of four large, simple setae; two pairs of long subequal, serrate propodosomal shoulder setae; first pair of anterior propodosomal setae about two-thirds the length of the second pair, second pair about two-thirds the length of the third pair, third pair longest; propodosomal simple setae equal in length, inner pair slightly thicker. Hysterosoma without shield; with an anterior transverse row of four setae, the outer pair serrate, about one-third longer than inner simple setae; a pair of simple serrate setae and a pair of simple setae posterior to the first row of serrate and simple hysterosomal setae, the simple setae slightly anterior to (or above), and one-third shorter than, the serrate ones; second serrate seta about one-fourth the length of first serrate seta; posterior margin of the hysterosoma with a pair of long, simple setae, about one-third as long as body, a pair of short, simple setae slightly above the long, simple seta, two pairs short, simple setae, anterior to the genital opening, and two pairs of simple setae laterad to the anal opening. Legs short; tarsus of each leg without claws but with empodium. Body 587 μ long by 338 μ wide.

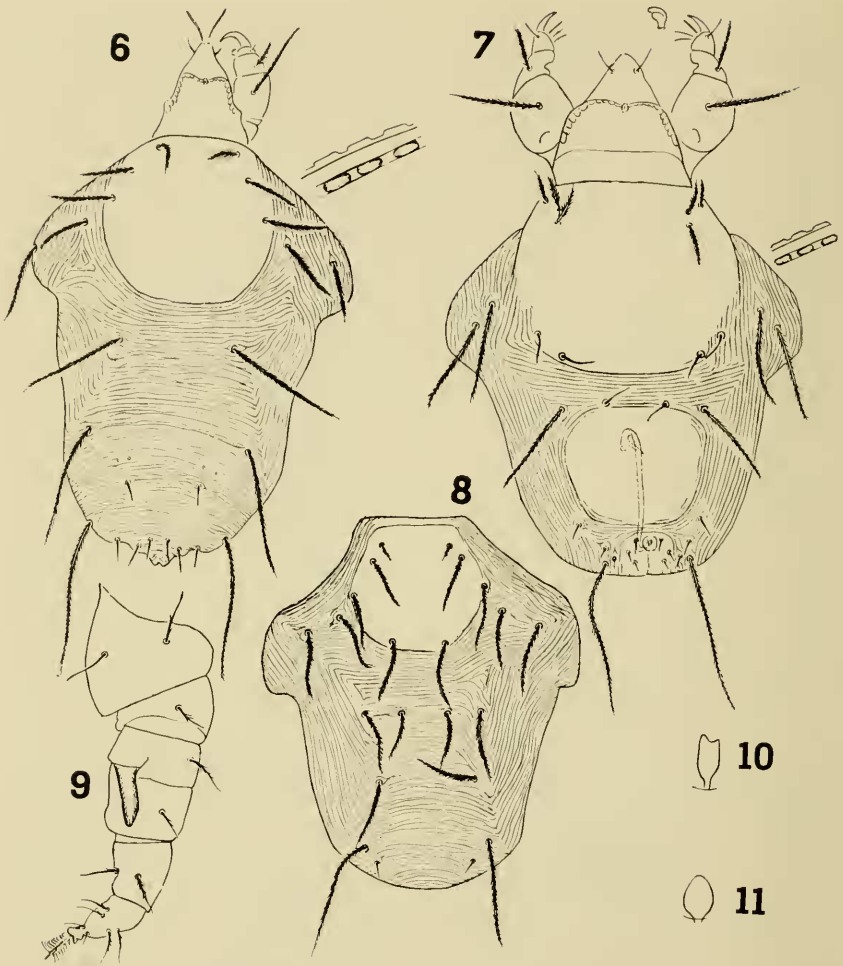
Male.—Similar to female, but with two dorsal shields. Palpi short and strong; femur with a long, serrate dorsal seta; genu with long dorsal serrate seta, about two-thirds as long as femoral seta; tibia with simple seta equal in length to genual seta; palpal claw curved downward, with many weak teeth. Rostrum short and broad; peritreme M-shaped, with lateral branches composed of large segments. Propodosomal shield longer than wide, with three pairs of serrated anterior lateral setae; first pair of propodosomal setae about two-thirds the length of the second pair, second pair about two-thirds the length of third, third pair longest; with a posterior median row of four large simple setae; two propodosomal serrate setae, subequal in length, adjacent to the shield. Hysterosoma with shield about as long as wide; a pair of long strong simple median setae near anterior margin, about one-third longer than the propodosomal simple setae and with two pairs of short simple posterolateral setae. One pair of long, strong serrate setae located adjacent to anterior lateral margins of shield. Posterior margin of hysterosoma with a pair of long serrate setae, about one-third as long as the body; three pairs of subequal simple setae, and two pairs simple subequal anal setae. Legs, short; tarsi without claws but each with rayed empodium. Body 472 μ long by 268 μ wide.

The female holotype, U.S. National Museum No. 2956, and a female paratype were collected from Schnauzer pups, Mamaroneck, New York, April, 1963 by I. J. Yasgur. Males and females were also collected on dog, Cornell University, Ithaca, New York in 1962 by Dr. R. K. Strickland, Animal Disease Eradication Division, United States Department of Agriculture.

This species is named for Isidor Yasgur, D.V.M., Mamaroneck, New York.

Cheyletiella johnstoni, new species
(Figs. 6–10)

This species resembles *Cheyletiella ochotonae* Volgin, but the shape and size



Figs. 6–11. *Cheyletiella johnstoni*, new species. Fig. 6, dorsum, female; fig. 7, dorsum, male; fig. 8, dorsum of nymph; fig. 9, ventral view of leg III, nymph; fig. 10, sensory organ of genu I. *Cheyletiella parasitivorax* (Mégnin). Fig. 11, sensory organ of genu I.

of the dorsal shields of the male will separate the two species. Also, the propodosomal shield of the female of this species is wider than long, being longer than wide in the female of *C. ochotonae*. The propodosomal shield of the male of *C. johnstoni* is longer than wide, whereas that of *C. ochotonae* is wider than long. This species differs from *C. takahasii* Sasa and Kano in that the palpi differ between the sexes, whereas in *C. takahasii* they are similar.

Female.—Palpi short and strong; palpal femur with a long, serrate, dorsal seta; genu with a long serrate seta, about two-thirds as long as the femoral seta; tibia

with a simple seta, about one-third as long as genual seta; palpal claw curved downward, with weak teeth. Rostrum short and broad; peritreme with lateral branches composed of large segments, the anterior transverse segments gradually becoming smaller in size. Propodosomal shield with three pairs of short, serrated, anterior lateral setae; first pair of propodosomal setae about two-thirds the length of the second pair, second pair about two-thirds the length of the third pair, third pair longest; two subequal propodosomal serrate setae adjacent to the shield. Hysterosoma without shield; with three pairs of long, serrate setae and two pairs of simple setae; first and second pairs of serrate setae equal in length, third pair on the posterior margin of the body, longer than the first and second pairs; simple setae equal in length, first pair located on the dorsal surface of the body, second pair located on the posterior margin of the body. Legs short; tarsus of each leg without claws but with empodium. Body 478 μ long by 287 μ wide.

Male.—Similar to the female, but with two dorsal shields. Male differs from female in the arrangement and number of setae. The propodosomal shield of the male has three pairs of serrate setae and two pairs of simple setae, whereas the female has only three pairs of serrate setae, and no simple setae. Body 453 μ long by 287 μ wide.

Nymph.—As figured, and without genital opening. The nymph of this species differs from the nymph of *C. ochotonae* by the number and length of the setae on the propodosomal shield.

The holotype female, U.S. National Museum No. 2957, and 4 paratype females, 2 males, and 3 nymphs were collected from *Ochotona princeps*, Santa Fé, New Mexico, August 5, 1955, by H. B. Morlan.

This species is named for Donald Johnston, Institute of Acarology, Ohio Agricultural Experiment Station, Wooster, Ohio, in appreciation of his suggestions and assistance.

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